

Guppy Diseases: Visual Recognition and Treatment

©Bill Carwile

Wasting Disease or intestinal parasites (nematodes):

I struggled with this problem for several years until Dr James Alderson, DVM, MBA shared his treatment protocol with me. Without Jim's help I would still be pulling out my hair and trying to figure out what was wrong with my fish. Thanks Jim for the insight into the problem and especially for the treatment.

The visual clues can be varied but usually include general sluggishness with fish picking at dried or flake food then spitting it out rather than eating. Fish also tend to get very thin sometimes to the point of emaciation and show signs of general distress, often hanging near the surface or near the flow of water near the filter. A reasonably certain visual sign of an intestinal parasite infestation of one form or another is the observation of white, stringy faeces or mucous in the faeces. If in doubt, you can sacrifice a sick fish and visually examine for worms in the intestinal tract using a small probe to tease the intestines open for a thorough look. Dr Alderson has described how to dissect guppies for visual confirmation of intestinal worm for me on several occasions but I have never done this myself. I rely on visual clues of the fish and in particular watch for any incidence of mucous in the faeces or white stringy faeces.

A flagellated protozoan infestation or hexamita is often present in the intestinal tract of weakened fish. This condition often occurs at the same time as a nematode infestation of the intestinal tract in guppies (personal conversation with Dr James Alderson, D.V.M.). When I suspect intestinal parasites, I will usually treat with panacur for the intestinal worms first and then treat for both problems if there is no improvement in the health and condition after one or two feedings of the panacur treated food. The treatments are listed below.

Intestinal parasites treatment:

Panacur (fenbendazole) is the medication of choice for treating intestinal parasites in guppies. The form that I have used is available without a prescription at any feed store or hardware store that caters to horse owners. It is a white paste with 10% active ingredient. The brand name usually available is called Safe-Guard. Simply read the label to make certain that panacur, (fenbendazole), is the active ingredient and also check to verify the percentage of the active ingredient. Safe-Guard contains 10 % active ingredient. In this preparation for horses, the paste smells and tastes sweet since it is flavoured with cinnamon and apples. The artificial flavouring makes both the horse and the fish (in our case) like the taste of the stuff!

Panacur is used in beef heart paste or gel fish food at the rate of **1.0%-1.5% active ingredient** (*I prefer 1.5%*). Using the above proprietary form of the preparation for horses with 10% panacur (fenbendazole) requires the use of 15% panacur paste (15% of beef heart or gel food weight equals 1.5% active ingredient) to achieve the 1.5% dose. When using the

gel food use the weight of the gel food mixture only and do not use the weight of the hot water added to make the mixture gel.

Sample Calculations:

500 grams beef heart x 1.5% = 7.5 grams active ingredient required. The paste has 10% active

ingredient, so 500 grams x 15% = 75 grams of the panacur paste required to give the 7.5 grams

active ingredient (75 grams x 10% = 7.5 grams active ingredient).

Beef Heart Preparation

The beef heart is prepared by removing all skin, connective tissue and blood vessels from the whole heart. Then cut the remaining heart meat into small pieces about 1 inch cubes is a good size and grind it several times in a meat grinder using the finest setting. Add no water to the mix as this just makes for a mix that fouls the water very badly. I use a hand operated sausage grinder with the finest cutting attachment that was supplied with the grinder. I grind once or twice and partially freeze the ground beef heart in thin strips on waxed paper. The partially frozen heart is then ground again. This second grinding of the partially frozen beef heart allows the grinding heads to cut the tissue a little better instead of tearing. The second grinding makes for a finer material with a minimum of torn cells and a minimum amount of tissue damage. *Finely ground meat* is a much *better* product (*my opinion*) than meat prepared in a blender since it does not seem to foul the water nearly as bad as beef heart that has been run through a blender. Others have told me that they use a blender instead with no water fouling problems but grinding is how I do it.

Over the years, my method of beef heart preparation has changed and I now use a food processor (not a bender but a food processor) to finely shred the beef heart. Black and Decker makes a relatively inexpensive food processor that works really great for finely chopping beef heart for guppy food. I bought one just after Christmas in 20008 for fish room use only and wish I had done so years ago. I have recently used a mixture of ½ beef heart and ½ cocktail shrimp (like we eat) and this mixture is eaten very well by the guppies and seems to be a good consistency for holding the panacure medication and does not seem to foul the water very much. Again, thanks to Dr James C. Alderson, DVM, MBA, for telling me about this great tool (the B & D food processor) and for the tip to use the beef heart and shrimp mixture.

Except for the added medication, the beef heart is prepared as I normally prepare it for feeding the fish. I like to add a small amount of unflavoured gelatine to help hold the paste together when fed. Add the panacur to the beef heart and mix thoroughly and place it in small zip lock bags in approximately ¼" thick layers so that it can be easily cut or broken after freezing.

For feeding, you simply break or cut enough of the frozen heart from the frozen paste to feed all your fish. I place the piece of beef heart paste on a small paper plate for ease of handling. I used to chop the still frozen paste with my pocket knife into small pieces to

speed up the thawing and then place it under the light that I keep on my brine shrimp hatchery to finish the thawing process.

More recently, I have used a small grater to grate the mixture instead of chopping. The type of grater used to grate cheese works very well! Better not use your wife's grater. Buy one to be used only in the fish room!! When you have finished mixing, put the mixture in a small covered container in the freezer to store until needed. Take out only as much as you will need for a single feeding. Feed small amounts per tank when completely thawed. A portion about the size of a green pea per tank makes a good starting point. Very young guppies (under two weeks) will not typically go down to the bottom to find and eat this food so I normally do not feed to the fry tanks. After about the age of three weeks or so they do eat it pretty well.

Gel Food Preparation

You can use gel fish food to administer the Safe-Guard medication. Gel fish food is available in a dry powder form from many mail order pet suppliers such as Wet Thumb Aquatics and also from Aquatic Eco-Systems. You can mail order from either source.

The gel food is prepared per the package directions by thoroughly mixing the supplied dry preparation (mostly ground fish meal and agar plus some added vitamins) with hot water according to the directions. Actually, use a little less water than the directions call for as the medication that you add will offset the slight reduction in water in the end product. If you use the full amount of water recommended by the gel food manufacturer the paste will be a little too soft. After mixing the powder and water thoroughly add 15% Safe-Guard by weight (15% of the dry powder weight only) to the gel paste and thoroughly mix before the mixture can "gel". Put in a small covered container in the refrigerator for about 4-8 hours or longer to finish hardening and continue to store in the fridge any that is not used in the first feeding until it is all fed. This mixture will keep in the fridge for about one week.

I calculate the Safe-Guard dose as a percentage of the weight of the dry powder (don't include the weight of the water) to make the gel food. Multiply the total weight of powder by 15% to calculate the weight of the Safe-Guard medication to use. By using 15% by weight of the Safe-Guard you will achieve 1.5% of the active ingredient in the finished product (see sample calculations above).

Add the Safe-Guard paste to the gel food as soon as it cools slightly and mix thoroughly. Put the mixture in a sealed plastic storage container in the refrigerator to cool until the paste has gelled. The gel food can be fed as soon as it has gelled and after it has gelled, it may be stored in the refrigerator for about a week or frozen for quite a bit longer until it is used.

Frequency of Treatment:

The medicated food (either beef heart or gel food) is **feed twice a week initially** then **once a week for up to 8 weeks**. Some breeders **continue to feed once every 2-4 weeks as a preventative**, this can be done indefinitely and does not seem to be harmful to the fish. The panacur medication kills only the adult worms but does not kill the eggs or the larvae stage

of the parasite so repeated feeding is required to prevent re-infestation by the next generation of the worm stage of the parasite.

Feed the fish this preparation sparingly until you see that the guppies readily accept the food since any uneaten food can really foul the water. I also try to feed the preparation at a time when I know I will be able to siphon my tanks later that day or on the next day to help restore the water quality.

Hexamita:

I have read that positive identification of hexamita can be made by sacrificing a fish or two and dissecting to observe the contents of the intestines and the intestinal walls under the microscope. Hexamita will appear as large numbers of small "flagellated wigglers" according to what I have read. I, like most guppy hobbyists, do not have a microscope or the knowledge and experience to use one properly.

If I suspect hexamita or nematodes, I usually treat for the nematodes initially with several feedings of the panacur medicated food. If I fail to see improvement in the vitality and condition of the fish after the panacur treatment I will continue with the panacur but I also add the medication for the hexamita.

Metronidazole is the drug of choice for **hexamita** and can be fed in beef heart along with the panacure or dosed in the water at **500 mg per 10 gallons** every other day for three treatments. Metronidazole is manufactured by **Seachem in 5 gram vials in a pure crystalline form and comes** with a measuring spoon and directions for use in water and food. Metronidazole is also available at many pet shops as manufactured **by Aquatronics** under the name of **Hex-A-Mit**. The Aquatronics brand is packaged as 500 mg capsules.

Just read the label on the medication package at the pet shop to make sure that the active ingredient is metronidazole. If you cannot find it locally, it can be mail ordered from That Fish Place or Pet Warehouse as well as other mail order aquarium stores.

Treat per package directions **every other day for three treatments** when used in the water.

When used **in food the dosage is 500 mg per ¼ lb. of beef heart or gel food.**

The metronidazole apparently does not taste very good to the guppies and in my experience they do not eat beef heart or gel food with this medication in it as readily they eat the preparation made with just the panacur. Your guppies will eat the food containing both metronidazole and panacur if you feed it sparingly and do not feed any other food on the same day. The key to the guppies accepting the food is to get them hungry then feed the food with metronidazole.

Guppy Clamping Disease

The disease that has become popularly known as "clamping disease" in the guppy hobby can be devastating if you do not recognize it early and have the proper treatment. I am not sure if the real culprit is an external parasite of some variety which is complicated by a bacterial infection of the fins, or if it is a viral disease, or possibly even bacterial in nature. This has been an ongoing problem in the tanks of many breeders for several years. Many different treatments have been used various breeders for this problem with moderate to little success.

Prior to the use of the combination of medications which I list below, the best treatment was usually the combination of Internal Parasite Guard by Jungle, 1.5 drops per gallon of formalin and 1 tablespoon of salt every other day for a minimum of three treatments or until well.

The treatment below was first used by Paul Gorski around June 2000. Paul has an outbreak of clamping and tried a shotgun approach using all medications in combination that he had on hand at the time. The combination of medications worked better than anything which he had previously tried. Because of the initial success he has continued using the treatment a number of times with continued success.

Prior to this treatment, other things worked to some extent, but the fish were never quite as strong after treatment and almost always had some fin damage. Paul has treated fish with this combination of drugs on more than one occasion and had them win in shows 30 days later. Since trying this treatment I have had similar results to those experienced by Paul.

Visual signs of "Clamping Disease" disease:

The visual sign of this disease is a rapid "clamping" of both the caudal and dorsal fins and a marked paling of the colour. The affected guppies also seem to breathe very rapidly and generally appear to be in some respiratory distress.

The onset of this disease is very, very rapid. The fish look fine one day and at the next feeding that day or on the next day the guppies are hanging at the top of the tank or clustered near the current created by the filter and clamped. If untreated, the dorsal will clamp down until almost completely closed and the caudal will do the same and the fish will shimmy and die within a couple of days.

I have observed that the fish seem to come down with this after a pH change when doing a water change or when doing a water change with water that is too cool. I have also received fish in the mail that got a little cool in shipping but looked fine in spite of the cool water. Many times fish received under these conditions will almost immediately clamp after being put in my water. The key to prevention appears to be avoiding stress of any kind, particularly pH stress or stress from rapid drops in water temperature.

Treatment is a shot gun approach that I have not seen fail yet if the treatment is begun at the onset of the disease. The fish will return to normal as far as the fins are concerned and will not be stunted in growth.

Treat every other day for a minimum of three treatments or until the fins are completely normal looking and they beg for food. Stop all feeding at the first signs of the disease and do not feed again until the fins look completely normal and the fish actively seek food.

Treatment:

1. **Salt-** 1 tablespoon per 10 gallons
2. **Triple Sulfa-** Per package instructions, usually 2 capsules per 10 gallons
3. **Furan II-** Per package instruction, usually 1 capsule per 10 gallons
4. **Quick Cure-** 1.5 drops per gallon, this is a combination of Malachite green and Formalin.

Repeat the full course of **treatment every other day for three treatments minimum** or until well. **Do not feed at all** until dorsal and caudal fins look completely normal again and the fish come to the front of the tank and actively seek food.

Website note: Since the origin of this article is American could readers who know of a source for the products listed in the UK please post on the website's Forum or email: derrick.clayton@ntlworld.com

This article is copyright© and may not be reproduced without the permission of the author.

To submit your questions and comments on the article direct to the author:
bcarwile@yahoo.com